

Rabbit anti-Human H2A.x-S139 Antibody | anti-H2AFX antibody

Phospho-Histone H2A.x-S139 Polyclonal Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA36803	Rabbit	Human	Immunofluorescence, Immunohistochemistry, Western Blot

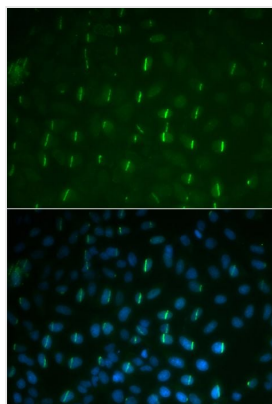
PRODUCT SYNONYMS

H2A.x-S139; Phospho-Histone H2A.x-S139 Polyclonal Antibody; Phospho-H2AFX-S139: H2AFX; Histone H2A.x; anti-H2AFX antibody

PRODUCT SPECIFICATIONS

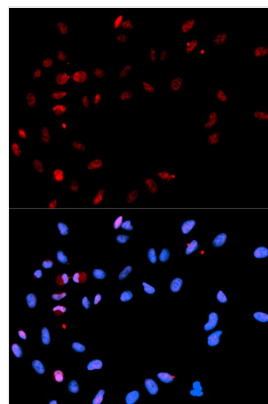
Host	Rabbit
Reactivity	Human
Isotype	IgG
Purity/Purification	Affinity Purification
Concentration	1mg/ml (varies by lot)
Sequence Length	143
Applicable Applications for anti-H2AFX antibody	IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Species	Human
Route	Synthetic Peptide
Immunogen	A phospho specific peptide corresponding to residues surrounding S139 of human Histone H2A.x
Calculated Molecular Weight	14kDa
Preparation and Storage	Store at -20 degree C. Avoid freeze / thaw cycles. Buffer: PBS with 0.09% Sodium azide, 50% glycerol, pH7.3.

IMAGES



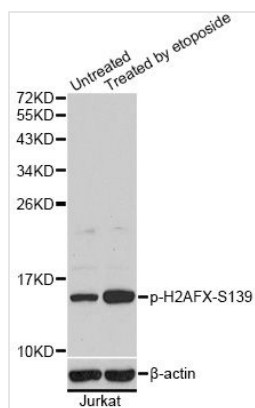
IF (Immunofluorescence)

Immunofluorescence analysis of U2OS cells using Phospho-H2AFX-S139 antibody. Blue: DAPI for nuclear staining.



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Immunofluorescence analysis of U2OS cells using Phospho-H2AFX-S139 antibody. Blue: DAPI for nuclear staining.



WB (Western Blot)

Western blot analysis of extracts of Jurkat cells, using Phospho-H2AFX-S139 antibody. Jurkat cells were treated by etoposide. Secondary antibody: HRP Goat Anti-Rabbit IgG (H+L) at 1:10000 dilution. Lysates/proteins: 25ug per lane. Blocking buffer: 3% BSA.

ADDITIONAL INFORMATION

Related Product Information for anti-H2AFX antibody

Histone H2A.X is a variant histone that represents approximately 10% of the total H2A histone proteins in normal human fibroblasts (1). H2A.X is required for checkpoint-mediated cell cycle arrest and DNA repair following double-stranded DNA breaks (1). DNA damage, caused by ionizing radiation, UV-light, or radiomimetic agents, results in rapid phosphorylation of H2A.X at Ser139 by PI3K-like kinases, including ATM, ATR, and DNA-PK (2,3). Within minutes following DNA damage, H2A.X is phosphorylated at Ser139 at sites of DNA damage (4). This very early event in the DNA-damage response is required for recruitment of a multitude of DNA-damage response proteins, including MDC1, NBS1, RAD50, MRE11, 53BP1, and BRCA1 (1). In addition to its role in DNA-damage repair, H2A.X is required for DNA fragmentation during apoptosis and is phosphorylated by various kinases in response to apoptotic signals. H2A.X is phosphorylated at Ser139 by DNA-PK in response to cell death receptor activation, c-Jun N-terminal Kinase (JNK1) in response to UV-A irradiation, and p38 MAPK in response to serum starvation (5-8). H2A.X is constitutively phosphorylated on Tyr142 in undamaged cells by WSTF (Williams-Beuren syndrome transcription factor) (9,10). Upon DNA damage, and concurrent with phosphorylation of Ser139, Tyr142 is dephosphorylated at sites of DNA damage by recruited EYA1 and EYA3 phosphatases (9). While phosphorylation at Ser139 facilitates the recruitment of DNA repair proteins and apoptotic proteins to sites of DNA damage, phosphorylation at Tyr142 appears to determine which set of proteins are recruited. Phosphorylation of H2A.X at Tyr142 inhibits the recruitment of DNA repair proteins and promotes binding of pro-apoptotic factors such as JNK1 (9). Mouse embryonic fibroblasts expressing only mutant H2A.X Y142F, which favors recruitment of DNA repair proteins over apoptotic proteins, show a reduced apoptotic response to ionizing radiation (9). Thus, it appears that the balance of H2A.X Tyr142 phosphorylation and dephosphorylation provides a switch mechanism to determine cell fate after DNA damage.

Product Categories/Family for anti-H2AFX antibody

[Phosphorylation](#)

NCBI AND UNIPROT INFORMATION

NCBI GI #	121992
NCBI GeneID	3014
UniProt Accession #	P16104 ; Q4ZGJ7 ; Q6IAS5
Molecular Weight	143
NCBI Official Full Name	Histone H2AX
NCBI Official Synonym Full Names	H2A histone family, member X
NCBI Official Symbol	H2AFX
NCBI Official Synonym Symbols	H2AX; H2A.X; H2A/X
NCBI Protein Information	histone H2AX; H2AX histone; histone H2A.x

UniProt Protein Name	Histone H2AX
UniProt Gene Name	H2AFX
UniProt Synonym Gene Names	H2AX; H2a/x
UniProt Entry Name	H2AX_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/rabbit-h2afx-human-antibody/h2a-x-s139/36803>